



Next Generation of Innovation for the Grassroots

Taking inspiration from science fiction sagas like the TV show Star Trek, the next generation of innovation is already taking shape in the South. A group of innovative facilities called [Fab Labs](#) (short for Fabrication Laboratory) in Ghana, India, Kenya, South Africa and Costa Rica are applying cutting-edge technology to address the everyday needs of people.

Like the futuristic "replicator" in Star Trek, Fab Labs allow people to design and produce what they need there and then. The labs are mushrooming throughout the South as people get the innovation bug.

Originally an idea from the [Massachusetts Institute of Technology's Center for Bits and Atoms](#), which sponsors nine of the labs, [Fab Labs](#) let people use digital technology to build physical objects, from eyeglass frames to toys and computer parts. Fab Labs empower local invention by turning education, problem-solving and job creation into creative process.

Started by Professor Neil Gershenfeld, Fab Labs use US \$20,000 worth of computers, open source design software, laser cutters, milling machines and soldering irons, letting people harness their creativity to build things they need, including tools, replacement parts and essential products unavailable in the local market.

With minimal training, children and adults are designing and making their own toys, jewellery and even computer circuit boards with the machines. It turns people from consumers into inventors.

"Instead of bringing information technology to the masses, the Fab Labs bring information technology development to the masses," said Gershenfeld.

In Ghana, the Takoradi Technical Institute in the southwest of the country hosts a Fab Lab, allowing a wide variety of people to use the "replicator" – from local street children to tribal chiefs – to make a wide range of products. The Ghana lab has several projects on the go, including antennae and radios for wireless internet networks and solar-powered machinery for cooking, cooling and cutting. The labs have found that the younger the users, the faster the skills are picked up.

John Silvester Boafo, principal at the Takoradi Technical Institute, is proud of what he calls a fu-fu pounder. "In a Ghanaian home, the main dish is fu-fu," he told the BBC. "Fu-fu is made of plaintain and cassava, which are cooked. After they are cooked, they are put into a mortar and pounded by hand. People go through hard labour just to get a meal to eat. So, we thought we could fabricate this machine to alleviate the hard labour they use in pounding."

They are also working on portable hand-held chargeable solar panel for televisions and refrigerators.

In Pabal, in the western part of Maharashtra, India, a Fab Lab was established at the Vigyan Ashram in 2002 and is now working on developing agricultural instruments. They are also testing milk for quality and safety, and tuning diesel engines to run more efficiently, especially with bio fuels. Another lab in Bithoor in the state of Uttar Pradesh (operated with the Indian Institute of Technology, Kanpur) is working on 3-D scanning and printing for rural artisans, such as

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producing wooden blocks used in Chikan embroidery.

In South Africa, officials are in the process of setting up four labs. The first is in the capital Pretoria, home to Africa's first "science park". The second is in the township of Shoshanguve, a very poor community with high unemployment.

"We have these very high-tech small start-up companies that are excited by the proximity of the lab," said Sushil Borde, head of the government agency charged with rolling out the four labs. "The companies say, 'We have these brilliant ideas, we have these business models, but we don't know how to get these ideas into tangible products.'"

Borde hopes the network of Fab Labs will enable South African entrepreneurs and engineers to test their ideas and "fast track the process of growth and development."

Seventeen-year-old Kenneth Chauke has been able to build a robot in the Fab Lab in Pretoria, he told the Christian Science Monitor.

IT supervisor Nthabiseng Nkadimeng at the Fab Lab in Shoshanguve, has been encouraging South African youth to dream expansively about new technology. "We want to encourage innovation," she told the Christian Science Monitor. "A lot of the kids, right now, they're making toys. That's okay, it's a start. But eventually we want them to do things that haven't been done before."

"It's the idea that if you're somewhere in rural South Africa, and you want something for solar energy, you can go to a Fab Lab and make your own," said Naas Zaayman, who works for the government coordinating the Fab Lab strategy.

LINKS:

- [id21 Insights](#): A series of articles by the UK's Institute of Development Studies on how to make technology and science relevant to the needs of the poor:
 - [Biography](#): Professor Neil Gershenfeld
- [eMachineShop](#): This remarkable service allows budding inventors to download free design software, design their invention, and then have it made in any quantity they wish and shipped to them:

Amazing!

African Culture as Big Business

In the last decade the world's creative industries (including crafts, fashion and design) have gained greater respect for being the spark that drives economic development and entrepreneurship. They are seen as fast growers and good job creators, and importantly, the lynch pin in cultural identity and cultural diversity. UNESCO, through its [Global Alliance for Cultural Diversity](#), has been in the forefront of helping African countries re-shape their policies to take this into consideration. The promotion of cultural industries also has been incorporated into the [New Partnership for Africa's Development \(NEPAD\)](#).

The global clothing industry is estimated to be worth US \$900 billion a year. Culture and creativity are big businesses: according to UNESCO, in 2002 the UK exported US \$8.5 billion in cultural goods, the United States US \$7.6 billion, and China US \$5.2 billion. The UK's Burberry fashion label alone made £157 million in 2006.

This is good news for Africa's growing fashion industry, which is finally getting the attention and respect it deserves. Entrepreneurs are tapping into this awareness as a great way to make money. Well-known Nigerian fashion designer [Alphadi](#) says the continent's fashion industry is "giving Africa a chance to show its true self, its solidarity, its huge generosity and its greatness."

Africa's fashion entrepreneurs are showing more and more confidence and striding with pride across catwalks around the world. And despite the problems faced by black models - as highlighted by supermodel Naomi Campbell in her recent press conference in Kenya - some African models have a growing international profile: these include Alek Wek from southern Sudan, and Waris Dirie from Somalia. Campbell has said she plans to set up a modelling agency in Kenya to increase opportunities.

Just as African music has fans around the world, the continent's growing fashion scene is gaining fans and more attention. From Hollywood stars to European catwalks, African fashion designers and apparel makers are feeding the industry's hunger for novelty and new ideas.

African entrepreneurs, from village craftsmen to ambitious and creative urbanites, are finding ways to cash in on this rising awareness.

The rising stars of South Africa were on full display at this August's Cape Town Fashion Week. [David Tlale](#), who produces glamorous haute couture creations, places community empowerment in his hometown of Johannesburg at the centre of his business. Tlale was joined by rising stars [Thabani Mavundla](#), Thula Sindi, and Craig Jacobs.

Creator and founder of the [Fundudzi](#) label of Johannesburg, Jacobs presented a couture collection at Paris Fashion Week in July. A former TV presenter-turned-fashion designer, Jacobs sees a renewed pride in African creativity and a new dialogue about Africa's place in the world. His motto is: "Africa reworked...Africa re-inspired... Africa renewed".

Established in 2004, his clothing company for women strives to be socially and environmentally responsible: "Fundudzi is also an eco-conscious label, utilizing materials such as organic cottons, soy and bamboo as well as cashmere produced in Africa which is not harmful to the environment," he said. "The message which we want to resonate with the rest of the world is that Africa has always been organic."

"Our label has grown out of the desire to help change the perception of our home, Africa, by presenting clothing designed and created here which can compete on the world stage."

Jacob benefited from support from various organizations in South Africa to get his business plans sorted out. The country's tourism body has focused on fashion with its C'est Couture campaign. But he has also struggled with the complexities of exporting his designs and navigating global customs regulations.

"There has been a lot of interest internationally in our collection, but I am not sure what the rules and regulations are ... We need an over-riding body to help assist us young entrepreneurs. My experience in Paris, in July, has been that we do have something new and fresh to say in fashion, and we can produce at the same standard as the rest of the world. There was validation of that. But we as Africans need to follow our own signature, look internally to come up with inspiration, and show that to the rest of the world.

"The global village environment, and the access that technologies such as the Internet have provided, means that we can tune into the same stimuli in terms of trends and fashion directions to ensure that we are on par with the rest of the planet. I do believe that the world, bored with the same trends they have been exposed to for so long, are looking for a new guard of inspiration - and we need to empower ourselves with the right tools to answer that call.

"Our positioning is quite simple - our label is dedicated to creating jobs in Africa, thereby reducing our dependency on aid in securing our future ...I wanted to create a label which is rooted in Africa, which tells African stories, but which is not tradition or museum curio - rather, intelligent pieces which can fit seamlessly into the global firmament of fashion. The label is focused on redressing the prejudices about the "dark continent" - each collection is designed as a travelogue, informing the world about the rich tapestry of life in Africa."

Another hub of dynamism in the African fashion scene is Nairobi, Kenya. [Kikoromeo](#) connects its catwalk fashion designs with the principle of community development. The label uses mostly Kenyan materials – cotton, silk and wool – and works with local artisans, including women’s groups. Its bags are woven with Kenyan Sisal by Machakos women’s groups, and the beadwork is done by Maasai women’s groups.

Anna Trezbinski of Nairobi, who is popular in Hollywood and has contracts to provide items to top designers like Paul Smith, employs 800 people – mostly Masai women in her workshop in the Great Rift Valley.

This new wave of African fashion designers is proving that anyone with talent, a website and a fan base can puncture the bubble of the European and New York catwalks and make a splash.

“Africa is a haven of inspiration,” says the Tanzanian-born, Nairobi-based designer and collector Lisa Christofferson, who has clothed Ralph Fiennes, Rachel Weiss and Jane Seymour. “Africa for many years now has been the flavour of fashion,” she says. “It has really opened the door for us.”

She believes the internet has expanded her business and her brand. It gives clients and boutiques around the world the ability to import her hand-painted, African-inspired cashmere sweaters, bedspreads and throws. Many are ceremonial cloths of the Kuba Kingdom in Congo.

Another designer based in Kenya, [Annabelle Thom](#), believes changes in the last seven years are responsible: access to TV and film, music channels and a burgeoning middle class with money. “People care more about fashion and if you look around in Nairobi, the average person is beautifully dressed – people are spending money on themselves,” she said.

Ethiopia has also been identified as a bubbling fashion hot spot for its indigenous raw cotton and potential to produce other natural fibres. Ethiopian designer Guenet Fresenbet launched Ethiopia’s first fashion magazine, [Gigi](#), to help take the lead.

LINKS:

- [Afromix](#): Great links to African fashion designers and fashion events and media.
- [Kikoromeo](#): Based in Nairobi, Kenya Kikoromeo’s founder and principal apparel designer trained in Rome and Milan and has been in production in Kenya since 1997.
 - South Africa’s leading fashion weeks: [Johannesburg Fashion Week](#) or [Capetown Fashion Week](#)
- [Uzuri](#): Premier International African Inspired Fashion Magazine: A quarterly magazine founded in 2005 and based in Texas, it is dedicated to highlighting high fashion in Africa.
- [Dobizo](#): An excellent website with all the resources necessary for a budding entrepreneur to get started in the fashion business, from step-by-step guides to common mistakes and how to choose a logo.
 - [Fashion Nigeria](#): Newly launched Nigerian fashion magazine.

Ecotourism to Heal the Scars of the Past

The legacy of underdevelopment during the communist era in parts of Eastern Europe is now being seen as an advantage in the global tourism trade. Well off the beaten path for tourists, areas as diverse as Chechnya and Romania are working to turn their rustic rural hinterlands into a strategic advantage in grabbing the market for ecotourists. Ecotourism – tourism that takes people to fragile and beautiful areas – is one of the tourism industry's fastest growing areas.

At stake is the lucrative and ever-growing world tourism market. Global tourist arrivals passed 800 million in 2006, with tourism in the world up by 5.5 per cent (World Tourism Organization), earning US \$680 billion globally. In 1993, just seven per cent of travel was nature tourism; that share has now passed 20 per cent.

Romania, now a member of the European Union, boasts rural countryside like Europe of old: all hillsides are common land and there are no walls or fences to impede the view. Life is heavily dominated by agriculture and the rhythms of farm life.

Southern Transylvania is a high plateau of wooded hills and valleys and shielded by the Carpathian Mountains.

"The Carpathians of central and eastern Europe," said Achim Steiner, head of the UN Environment Programme, "are among the world's richest regions in terms of biodiversity and pristine landscapes. I have no doubt that the Carpathians, like the Alps, the Himalayas and the Rocky Mountains, will become world famous for walking, hiking, climbing, wildlife watching, photography and similar leisure pursuits."

In order to preserve this way of life and generate income, various schemes are encouraging low-key tourism. This takes the form of renovating decaying farm buildings for guesthouses. The guesthouses are kept clean and simple and the focus is on typical local food like hearty stews and soups and pork sausages.

Much of this has been paid for by the [Mihai Eminescu Trust](#), a charity seeking to preserve the traditions of the Saxon villages.

Patrick Holden of the Soil Association, a patron of the Mihai Eminescu Trust, thinks the organic agricultural methods of the local farmers could be a model for the rest of Europe.

Romania is also part of the Organization for Black Sea Economic Cooperation (BSEC), which is taking the lead in promoting ecotourism as an economic development option.

Ex-communist nation Bulgaria has also turned to ecotourism, launching its "Ecotourism: Naturally Bulgaria" campaign in September.

Even the once-war-torn Russian republic of Chechnya is trying to radically re-shape people's perceptions. It is hard to believe, but the former site of a bitter civil war that left the capital Grozny in ruins now wants to be Russia's Switzerland.

Shatoy region in southern Chechnya, during Soviet times, saw 20,000 visitors every month to ski, ride horses, and hike in the Caucasus Mountains. The new government plans to spend UK £40 million on new hotels, reconstructing old holiday camps, building spas and health centres. The region's head of government, Mr Khasukha Demilkhanov, is confident that natural beauty can compete with the West: in the Argun Gorge, he pointed out to the Guardian newspaper, the scene is reminiscent of a 19th century woodcutting. Stone towers litter the hills, alpine meadows are full of wild flowers, the mountains are snow-capped and new roads have been built.

The Chechens hope to start with Russian holidaymakers and extreme tourists from the West, before moving more into the mainstream market.

LINKS:

- [Ecotourism.org](#): The International Ecotourism Society.
- [Ecotourism Kazakhstan](#): Kazakhstan has put together a dedicated website on ecotourism.
- [Planeta](#): one of the first ecotourism resources to go online (since 1994) and still offers plenty of information for those wanting to start a business.

Popular Characters Re-invent Traditional Carving

The popular cartoon characters from the long-running series The Simpsons are breathing new life into traditional African stone carvings.

A traditional craft in many cultures, carving adds value to local resources and provides an excellent source of income for local artisans and entrepreneurs. While wood or stone carvings are a popular tourist souvenir throughout Africa, Asia and Latin America, most carvers stick to traditional subjects.

However, a group of villagers in western Kenya have transformed their economy by swapping carvings of elephants and Cleopatra for Homer, Marge and Sideshow Bob.

According to the book Carving out a Future by the Centre for International Forestry Research (CIFOR), carving exports from the island of Bali in Indonesia total US \$100 million per year. India's industry is worth US \$65 million. In Oaxaca, Mexico, carvings earn US \$2,500 per household, increasing access to education and health. In Kenya, carving involves more than 60,000 people and provides household income for more than 300,000. In some communities in South Africa, households can earn between US \$500 and US \$2,000 per year from carvings – 80 per cent of a household income.

Research into carving has identified several factors that are critical to maximising profits: quality is critical, and the best woods and stone must be used. Diversity is an important element: too much of the same thing being made available damages the market. And sustainability: the wood and stone resources must not be used up.

It is this novelty and diversity that The Simpsons carvings address. By tapping into the global market for official licensed merchandise, the Tabaka carvers of the Abagusi tribe - well-known carvers in western Kenya - have significantly increased their income. And they are cashing in on the global popularity of the first Simpsons movie released this year.

Tabaka is a village three hours by bus from Kenya's capital, Nairobi. In Nairobi, the carvers would sell their soap stone carvings to middlemen, often for a pittance compared to what they would in turn charge tourists. Negotiations with these vendors could take days and waste the precious income of the carvers as they waited around for the deal to come through.

[Craft Village UK](#) has organised the carvers to produce Simpsons statuettes for the worldwide market. The carvers were able to win the official merchandise license from The Simpsons' owners, Twentieth Century Fox, after its vice-president saw a video of the carvers. They were initially awarded the license to craft 12 of the show's characters for the US and UK markets, but last month they gained the worldwide license.

Craft Village's founder, UK-based Paul Young, had the idea three years ago when his sister returned from living in Uganda with soap stone carvings. Impressed by the quality of the workmanship, he thought they would sell better in a western market if they reproduced popular images from films and TV. In 2005, he made contact with the carvers through a crafts company in Nairobi. He sent initial plastic figurine models and photos to help the carvers get the statues right. He flew to Kenya in 2005 to meet the carvers for the first time and video the carving process.

Initial prototypes were too heavy and some would break. And it took 12 months of trial and error to get the quality high enough to approach Twentieth Century Fox.

"Familiarizing the carvers with The Simpsons was difficult," said Young. "Making the carvers understand the importance of quality control and the need for benchmark standards and uniform carvings was - and still is - a challenge."

"I don't know who they are," said Pauline Kemunto, who helps her husband with the carvings. "But I like them because I earn from them."

In a community known for growing bananas, David Atang'a, master carver and former soldier, supports five children. "If this Simpsons project succeeds, I hope to educate my children in university," he said.

Two groups of 15 members each are divided between Tabaka Master Carvers and Tabaka Classic Carvers. Women take over and wash, polish and shine the pieces. Each piece is numbered and signed ([Craft Village UK products](#)).

The carvers now make 450 Kenyan shillings per statue (UK £3) – between four and six times what they would have got for a traditional carving. Where work before was sporadic, it is now regular and employs 80 people. The extra income means the carvers can now send their children to secondary school.

Enosh Onsombi grew up with no electricity and no television. But since the community started carving the Simpsons characters, "Life has changed so much," he told The Independent newspaper. "The Simpsons has changed everything."

LINKS:

- [Nonprofit Enterprise and Self-sustainability Team \(NESsT\)](#): works in emerging markets by “developing and supporting social enterprises that strengthen civil society organizations’ financial sustainability and maximize their social impact.”

- **MicroFranchising: Creating Wealth at the Bottom of the Pyramid**
by Jason S. Fairbourne et al, Publisher: Edward Elgar Publishing
Website: www.amazon.com
- **Too Poor for Peace? Global Poverty, Conflict, and Security in the 21st Century**
by ed. Lael Brainard and Derek Chollet, Publisher: Brookings Institution Press
Website: www.brookings.edu
- **Flat World, Big Gaps: Economic Liberalization, Globalization, Poverty and Inequality**
by ed. Iorno K.S. with Jacques Baudot, Publisher: Third World Network and the UN
Website: www.panaseanemall.org
- **Here or There? A Survey of Factors in Multinational R&D Location**
A study of more than 200 multinational companies finds emerging countries like China and India will continue to be beneficiaries of R&D expansion.
Publisher: Ewing Marion Kauffman Foundation
Website: www.kauffman.org
- **Rapid Assessment of Cell Phones for Development**
by Sally-Jean Shackleton, Publisher: UNICEF
Website: www.apc.org
- **Doing Business 2008**
This World Bank annual survey of the best places to do business finds Egypt, Ghana, Kenya, Colombia and China have all made significant improvements.
Website: www.doingbusiness.org
- **Wikinomics: How Mass Collaboration Changes Everything**
by Don Tapscott and Anthony Williams, Publisher: Atlantic
Website: www.wikinomics.com
- **Emerging World Cities in Pacific Asia**
edited by Fu-chen Lo and Yue-man Yeung, Publisher: United Nations University Press
Website: www.unu.edu

Job Opportunities

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| <ul style="list-style-type: none"> ■ Africa Recruit Job Compendium <ul style="list-style-type: none"> ■ Africa Union ■ CARE ■ Christian Children's Fund <ul style="list-style-type: none"> ■ ECOWAS ■ International Crisis Group ■ International Medical Corps ■ International Rescue Committee <ul style="list-style-type: none"> ■ Internews ■ IREX ■ Organization for International Migration <ul style="list-style-type: none"> ■ Oxfam | <ul style="list-style-type: none"> ■ Relief Web Job Compendium (UN OCHA) (1) ■ Relief Web Job Compendium (UN OCHA) (2) <ul style="list-style-type: none"> ■ Save the Children ■ The Development Executive Group job compendium <ul style="list-style-type: none"> ■ Trust Africa ■ UN Jobs ■ UNDP ■ UNESCO ■ UNICEF ■ World Bank ■ World Wildlife Fund (Cameroon) |
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Please feel free to send your comments, feedback and/or suggestions to Cosmas Gitta
[cosmas.gitta@undp.org] Chief, Division for Policy, Special Unit for South-South Cooperation